Enrico Dreyer

Study Unit 2 Preparation

What is a Systems Approach?

It is an analytical and holistic approach to solving difficult problems by using system analysis, philosophy, and system management. A system is a set of components working together to fulfill a proposal together. Thinking about things as a system as an overall model is called a system philosophy.

Using a systems approach

Understanding how all the projects relate to each other in an organization, project managers and top management must follow a system philosophy. To address the needs with a problem-solving approach they must use a system analysis. By using system management they can identify key issues in the organizational, technological, and business spheres related to a project, this helps them satisfy and identify key stakeholders.

Three-sphere model

Business

This ties into what the cost will be for the technology. What will the cost be? What will the impact be on enrollment of this project?

Organization

This ties into what effect it will have on others. Will there be training needed for this project? Will you need to buy a new tablet to use this system?

Technology

This ties into what technology is going to be used. On what operating system will it run? What application will be needed to run this system?

The four frames of organizations

Structural Frame

This is how an organization is structured. This focuses on different responsibilities and group roles to complete the policies and goals set up by management.

This is important and focuses on control and coordination.

Human resources frame

This focuses on the needs of the people and the organization. This frame is there to sort out potential problems and recognizes that mismatches can occur between the individuals and the organization,

Political frame

This addresses personal and organizational politics. Groups compete for leadership, power, and resources. This competition causes conflicts in the organization. Attention to politics is important to project managers if they want to be effective.

Symbolic frame

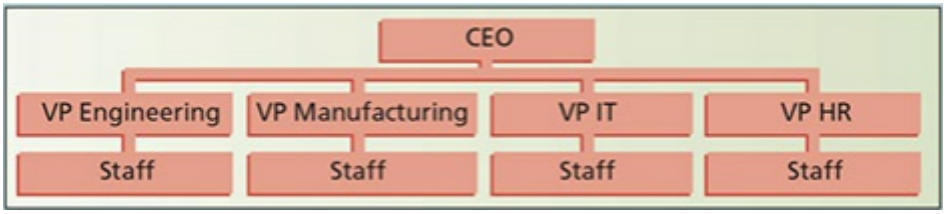
This focuses on meanings and symbols. An important aspect of any event in this frame is not what happened, but what it means. When the boss comes in early for work, is it because he has a lot of work? Or if he wants to see who is late? This frame also focuses on on company culture. How people dress, how much overtime do they work?

Organizational structures

The three general classifications are functional, project, and matrix organizational.

Functional

Staff are specialized and have skills that are specific.

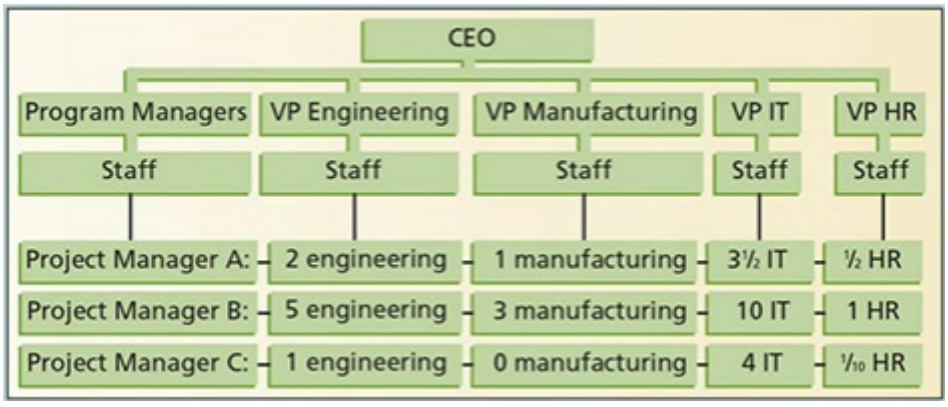


Project

Staff have a variety of skills and do not support the CEO but the program manager.

Matrix

This is the middle ground between the project structure and the functional structure. Staff often report to more than one project manager or functional manager.



Organizational Culture

This is a set of shared values, behaviors, and assumptions that characterize the organization and how it functions. This often includes elements from the four frames of an organization.

Characteristics:

- Member identity
- Group emphasis
- People focus
- Unit integration
- Control
- Risk tolerance
- Reward criteria
- Conflict tolerance

- Means-ends orientation
- Open-systems focus

Why top management support is important

An important factor in why projects succeed is the level of support and commitment they receive from top management. Some projects have a "Champion" that is the key advocate for the project. A champion can serve as a sponsor.

Reasons why top management commitment is crucial:

- Adequate resources
- Approval. When a team needs software or hardware and management knows what is going on in the project it is easier to communicate and get the exact resources that are needed.
- Cooperation from employees and the organization.
- Mentor or coach. Many IT managers come from technical positions and need help with leadership.

Project Life Cycle

This is a collection of project phases. A project goes through these changes from start to finish.

Steps:

1. Starting the project
2. Organizing and preparing
3. Carrying out the work
4. Finishing the project

Difference between project and product life cycle

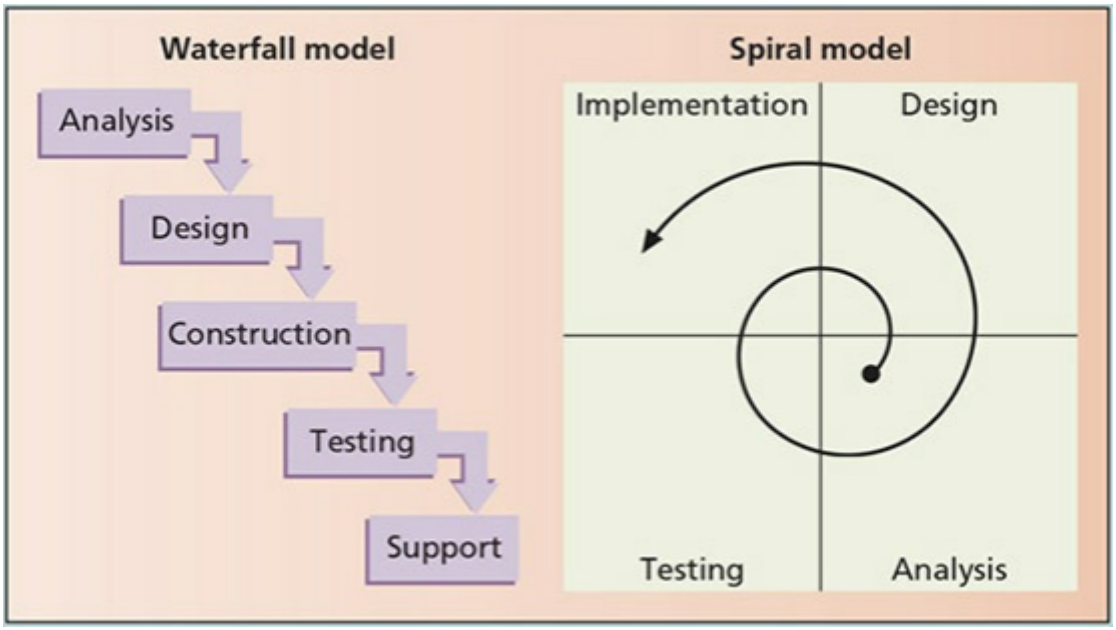
The project life cycles define what will be done in every phase, who is involved in each phase and how will management approve of each step in the project.

Product life cycle is the process used to define, create, and deliver products.

Product life cycles:

- Predictive life cycle
- Iterative life cycle
- Incremental life cycle
- Adaptive life cycle
- Hybrid life cycle

Waterfall and spiral life cycle models:



Importance of project phases and management reviews

Due to the importance and complexity of many IT projects, it is important that at every phase to take the time to review the status of the project. Management reviews are there to keep projects on track and determine if the project should continue, redirect or be terminated.

By breaking the project into phases, it makes it easier for management to determine if the project is still compatible with the needs of the user. It is important to have management reviews throughout the life cycle and not just at the end.

The nature of IT projects

IT projects are diverse. For example, when working on a project for an accounting firm, you need to know more about accounting than when working on a project for a school.

This causes different people to have different backgrounds. This can provide an advantage because a project requirement can be viewed from a different point of view. This is why some companies hire employees from different educational backgrounds such as mathematics or business to work on an IT project. Other than that as programmers, different job titles describe specific technologies used, such as C# programmer, PHP programmer, and Java programmer.

Trends affecting IT project management

Globalization

Key issues when project managers work on global projects:

- Communications: Different time zones, languages, and cultural backgrounds.
- Trust: Respecting differences and value what they bring to the project.
- Common work practices: Everyone should be comfortable with develop modus and align work processes.
- Tools: Different people use different tools and it should be investigated on what tool fits everyone the best. Security is important when deciding which tool should be used.

Suggestions for managing global projects:

- Employ greater discipline
- Act locally but think globally
- Consider collaboration
- Keep momentum going
- Consider newer technology and tools

Outsourcing

This is an organization's acquisition of services and goods from a source outside of the organization. Some organizations use outsourcing to their advantage and find that it reduces costs.

With the popularity of outsourcing, project managers need to familiarize themselves with many procurement and global issues.

Virtual Teams

Cost and time are factors required for an employee to relocate, the advantage of hiring people that live in locations with a lower cost of living has increased the need for virtual teams.

This is a group of people that work together despite space and time boundaries while using communication technologies.

Advantages:

- Low cost
- Teams working any time of the day
- Eliminating fixed office hours

Disadvantages :

- Isolating employees that do not work well in virtual environments
- Not being able to use body language
- Not being able to transfer information informally
- Increase dependency to technology

Agile project management

Agile means moving easily and quickly. Today it means using an approach where solutions evolve through participation. Agile can be used for any environment where requirements change quickly or are unknown.

Values of better ways of developing and helping others to do it:

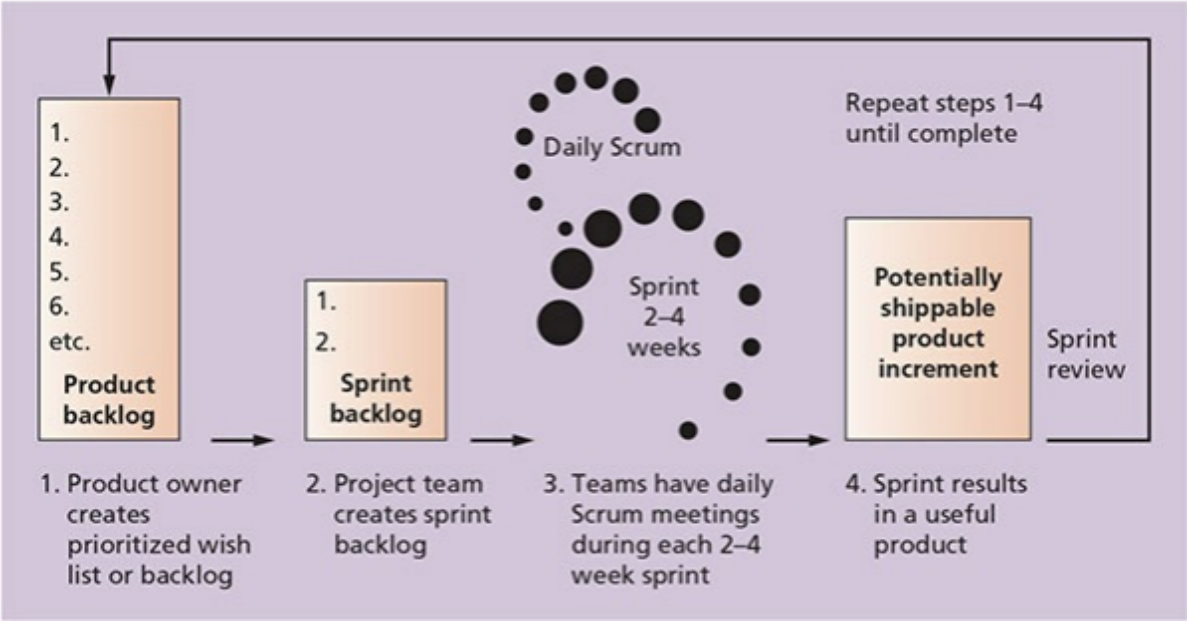
- Individuals and interactions are more important than processes and tools
- Working software is more important than comprehensive documentation
- Customer collaboration is more important than contract negotiation
- Responding to change is more important than following the plan

SCRUM

Leading agile development. Perfect for a complex, innovative scope of work.

Basic Scrum framework:

- Prioritize product backlog
- Sprint planning, small pieces from the backlog
- Time of sprint is 2-4 weeks
- Scrum master keeps team on its goal
- After sprint it should be ready to handle to the customer
- Sprint review and retrospective
- Next sprint planning



Repeats until the backlog is completed, the budget ran out, or when deadlines have been reached. Ensures that most valuable tasks have been finished.

Kanban can be used in conjunction with SCRUM.